



Navy Environmental Quality Fact Sheet



Do you remove paint using chemical paint stripping or sand blasting?

Would you like to improve this process in the following areas?

- **Meet environmental compliance regulations.** Eliminate hazardous paint strippers and their associated air emissions. Reduce waste solvents generation. Media areas include air and hazardous waste programs.
- **Improve workers' safety and health.** Eliminate exposure to hazardous paint strippers and paints.
- **Increase productivity.** Reduce the labor hours for paint stripping operations.
- **Save money.** Reduce waste disposal costs.

*Sodium bicarbonate stripping processes are used as alternatives to traditional chemical paint stripping. This process may be used to remove paint from delicate substrates such as aluminum without causing damage. Sodium bicarbonate is a soft blast media with a heavier specific gravity than plastic abrasives. The bicarbonate of soda stripping process can be used with or without water. It is most frequently used with water, which acts as a dust suppressant. In this form, compressed air delivers sodium bicarbonate media from a pressure pot to a nozzle, where the media mixes with a stream of water. The soda/water mixture impacts the coated surface and removes the coating from the substrate. The solid residue generated from this process can be separated from the wastewater by settling or filtration. Filtered wastewater containing dissolved sodium bicarbonate may be treated at an industrial wastewater treatment plant. The sodium bicarbonate media cannot be recycled. This technology has been tested at USMC Logistics Base Albany, Georgia. **This equipment is available through the Navy Pollution Prevention Program.***



*Sodium Bicarbonate Blasting System
(Walk-in Booth)*

How can you achieve these improvements?

Use a Sodium Bicarbonate Blasting System.

How does this equipment work?

A sodium bicarbonate/water mixture is blasted onto the coated surface to remove paint and light corrosion.

How will this equipment save you money?

The Sodium Bicarbonate Blasting System reduces labor hours for paint stripping operations. It also eliminates chemical paint stripper procurement costs and reduces hazardous waste disposal costs. The cost is approximately \$225,000 and has a payback period of less than five years. For a complete cost analysis refer to Joint Service P2 Opportunity Handbook Data Sheet 5-01.



Typical Process Flow Diagram



How can this technology eliminate or reduce pollution?

This P2 method can eliminate worker exposure to harmful paints and solvents. Use will result in the following pollution reductions:

- Eliminate use of hazardous chemical paint strippers and associated fugitive air emissions.
- Reduce the amount of hazardous waste generated compared to chemical stripping.

Which shops can benefit most from this technology?

This technology can be used in processes that use solvents and other blast media to remove paint and light corrosion from parts and ground support equipment. Shops that could benefit include:

- Aircraft parts maintenance
- Facilities parts maintenance
- Support equipment parts maintenance

How can this technology reduce regulatory compliance concerns.

This technology reduces VOC emissions and waste generation. Use will result in the following regulatory compliance benefits:

- Reduction in hazardous waste helps facilities meet the waste minimization requirement under RCRA, 40 CFR 262.41 (a)(6).
- May help facilities reduce their generator status and lessen the tasks required to comply under RCRA, 40 CFR 262 (i.e. record keeping, reporting, inspections, transportation, accumulation time and emergency measures).
- May help reduce facility-wide air emissions below applicable major source threshold. (Facilities that are not a major source for any pollutant do not need a Title V permit.)
- May reduce or eliminate local VOC compliance requirements in ozone nonattainment and maintenance areas.

Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

For additional information, contact:

Joint Service P2 Opportunity Handbook Data Sheet Number 5-01
(Web: http://p2library.nfesc.navy.mil/P2_Opportunity_Handbook/5_1.html) and the PPEP Equipment Book (<http://www.lakehurst.navy.mil/p2/index.htm>)

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